

AN ARCHAEOLOGICAL SURVEY OF THE PROPOSED HURRICANE
CREEK DETENTION POND NUMBER 4
IN CENTRAL ANGELINA COUNTY, TEXAS

Texas Antiquities Permit Number 2335

By
William E. Moore

Brazos Valley Research Associates

Contract Report Number 73

2000

AN ARCHAEOLOGICAL SURVEY OF THE PROPOSED HURRICANE CREEK
DETENTION POND NUMBER 4 IN CENTRAL ANGELINA COUNTY, TEXAS

BVRA Project Number 99-18

Principal Investigator

William E. Moore

Prepared for

City of Lufkin
Post Office Drawer 190
Lufkin, Texas 75902

Prepared by

Brazos Valley Research Associates
813 Beck Street
Bryan, Texas 77803

ABSTRACT

Brazos Valley Research Associates (BVRA) performed a cultural resources survey of a detention pond in central Angelina County, Texas in March 2000. This project was conducted under Texas Antiquities Committee permit number 2335. The project area was investigated by shovel testing. The area investigated consisted of 25 acres. No archaeological sites were found within the boundaries of the project area, and it is recommended that construction be allowed to proceed as planned. Copies of the final report are on file at the Division of Archeology, Texas Historical Commission; Texas Archeological Research Laboratory; the City of Lufkin; and BVRA in Bryan, Texas.

ACKNOWLEDGMENTS

BVRA is appreciative of the assistance provided by Mr. Rick Freeman, Project Manager, of Everett Griffith, Jr. & Associates, Inc. of Lufkin, Texas. He provided BVRA with maps and helped the field crew locate the project area boundaries in the field. Keith Wright, P.E. of the City of Lufkin on this project and his assistant Debbie Fitzgerald, Engineering Designer, are thanked for their part in this endeavor. At the state level, Carolyn Spock, Head of Records at the Texas Archeological Research Laboratory (TARL) in Austin, Texas checked the TARL files for previously recorded sites in the project area. Ed Baker of the Texas Historical Commission, Archeology Division, was the reviewer for this project. Lili Lyddon of Lyddon Illustrations of North Zulch, Texas prepared all figures in this report. James E. Warren was the Project Archeologist, and Bobby Jemison and Tom McMasters assisted him.

CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iii
INTRODUCTION.....	1
ENVIRONMENTAL SETTING	4
ARCHAEOLOGICAL BACKGROUND	5
FIELD METHODS	7
RESULTS AND CONCLUSIONS	9
RECOMMENDATIONS	11
REFERENCES CITED	12

Appendix I: Shovel Test Log

Figures

Figure 1. General Location of Project Area	2
Figure 2. Project Area on Lufkin Quadrangle	3
Figure 3. Shovel Tests	8

INTRODUCTION

The City of Lufkin proposes to construct Hurricane Creek Detention Pond Number 4 that will impound water in Hurricane Creek in central Angelina County, Texas (Figure 1). The size of the project area investigated by BVRA is 25 acres. The project area is depicted on the topographic quadrangle, Lufkin (dated 1949 and photorevised in 1980) (Figure 2). It should be noted that this map is out of date as many current roads and subdivisions are not depicted. Angelina County contains significant prehistoric and historic sites. Therefore, an archaeological survey was recommended by the Division of Archeology, Texas Historic Commission. In order to comply with this request, the City of Lufkin retained BVRA to conduct this service which was performed under Texas Antiquities permit 2335 with William E. Moore the Principal Investigator.

The 25 acre project area is located in an urban setting in the city limits of Lufkin. It is bounded on all four sides by streets and subdivisions. An east-west tributary of Hurricane Creek bisects the main portion of the project area, and another tributary flows through the southernmost area.

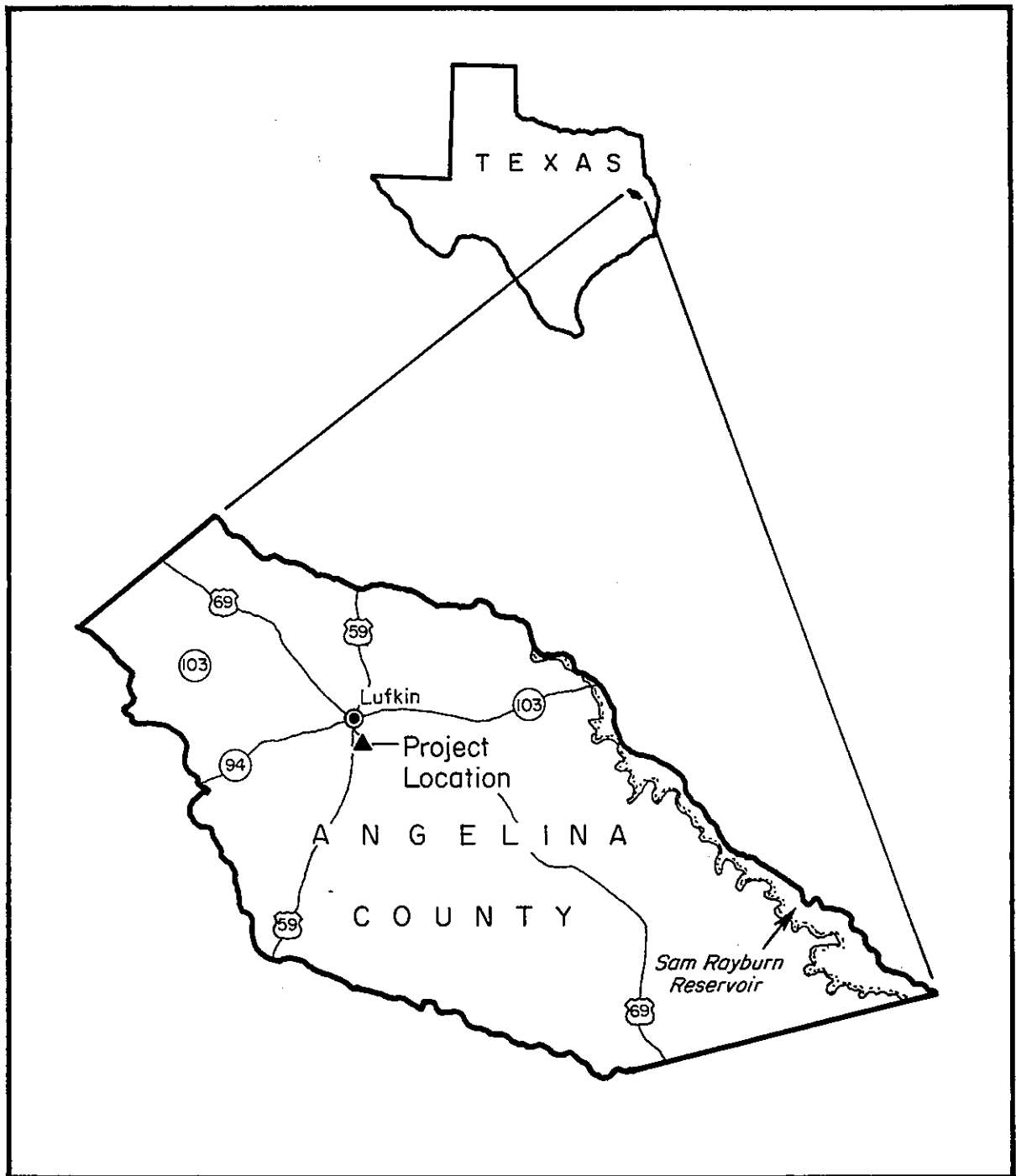


Figure 1. General Location of Project Area.

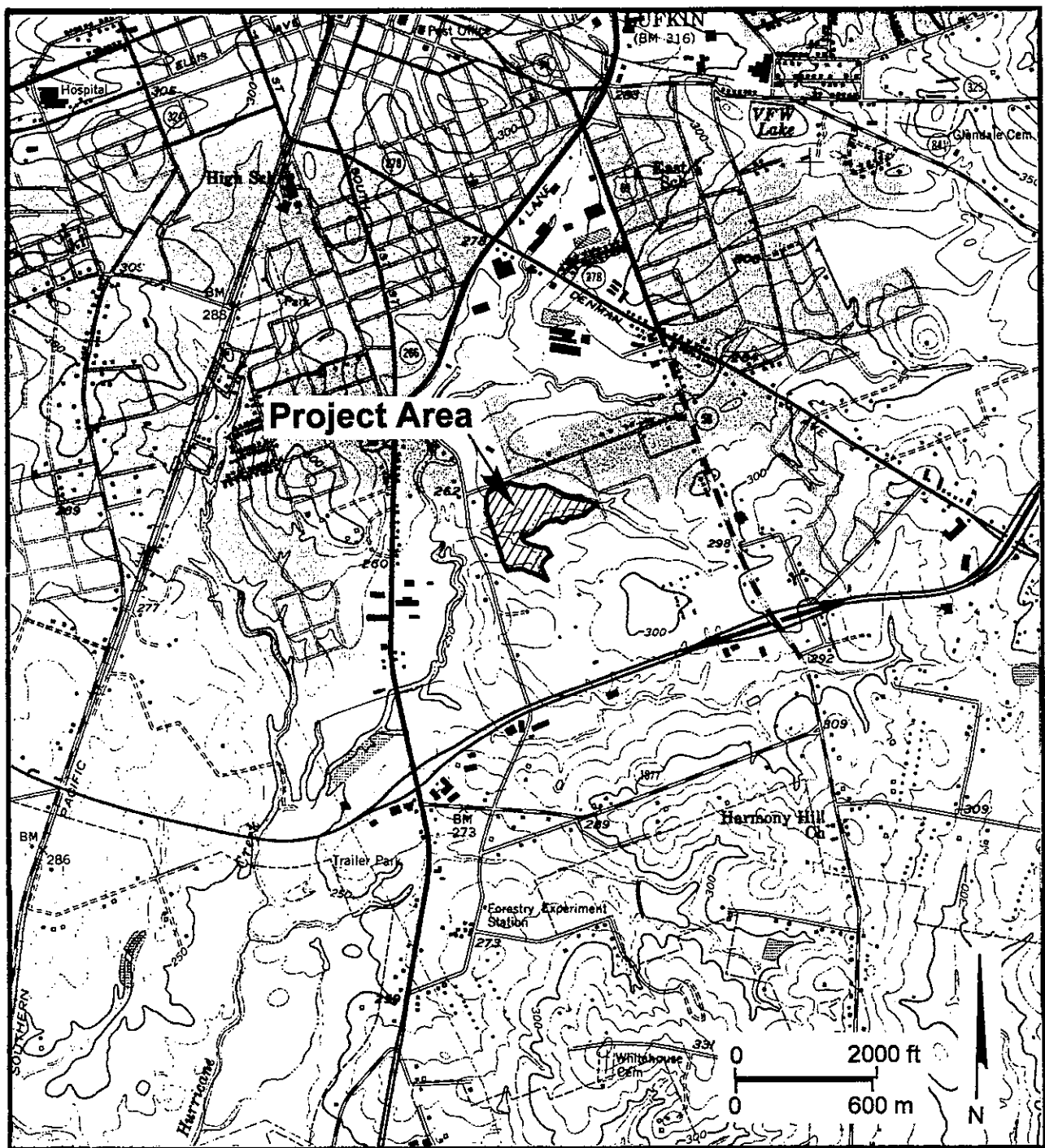


Figure 2. Project Area on Lufkin Quadrangle.

ENVIRONMENTAL SETTING

The following general discussion of Angelina County was taken from the Soil Survey of Angelina County (Dolezel (1988:1-4). Angelina County is located in the central part of East Texas. The northern and southern parts of the county have a dendritic drainage system with many large streams. Two rivers, Neches and Angelina, drain the county. Elevation ranges from about 100 feet in the south near the Neches River to about 460 feet in the northern part of the county. Angelina County is in the East Texas Timberlands Land Resource Area and forest products are a major part of the local economy. Soils in this area formed mainly under forest vegetation in a humid environment, and most are light in color and low in natural fertility. Nearly level areas are often wet, and moderately steep to steep areas tend to erode easily. When possible, descriptions of soils specific to the project area appear in the *Results and Conclusions* section of this report. Angelina County has long, hot summers because of moist tropical air from the Gulf of Mexico persistently covers the area. Winters are cool and fairly short. Rainfall is fairly heavy throughout the year, and prolonged droughts are rare. The total annual precipitation is 41 inches. Of this, 21 inches (50%) usually falls in April through September. In winter, the average temperature is 50 degrees Fahrenheit, and the average daily minimum temperature is 39 degrees. In summer, the average temperature is 82 degrees, and the average daily maximum temperature is 93 degrees.

ARCHAEOLOGICAL BACKGROUND

According to a recently published planning document for the Eastern Planning Region of Texas (Kenmotsu and Perttula 1993:Figure 1.1.2), Angelina County is situated within the Northeast Texas archeological study region. In 1985, according to a statistical overview prepared by the Texas Historical Commission (Biesart et al. 1985:107), Angelina County contained 52 recorded sites. The site files at TARL revealed 172 recorded sites at the time of this survey. In 1985, 1 site in the county had been excavated, 21 had been tested by hand, 1 had been tested by machine, 30 sites had been dug by collectors, and 46 had been surface collected. Nine recorded prehistoric sites in the county were listed as Archaic, and 41 sites were listed as Late Prehistoric (Biesart et al. 1985:108). Five sites contained burials.

In 1991, an evaluation was made of significant sites in the Northeast Texas Archeological Region (Kenmotsu and Perttula 1993:Table 2.1.1). At this time Angelina County contained 121 recorded prehistoric sites; of this number 19 were listed as not significant, 67 as unknown significance, 35 as probably significant, and 22 as significant.

The archaeological significance of Angelina County is partially reflected in the following statistics. In 1993, the county contained the second highest number of important known hunter-gatherer sites in Northeast Texas (n=3) (Kenmotsu and Perttula 1993:Figure 2.3.3) and also contained at least 13 important Late Caddoan sites (n=13) (Kenmotsu and Perttula 1993:Figure 2.5.2). Unfortunately, there are major forces that continue to threaten the integrity of archaeological sites in Angelina County. These include population growth (City of Lufkin and surrounding area), highway construction, surface lignite mining, Sam Rayburn Reservoir (formerly McGee Bend), and the lumbering industry.

Although private contract archaeology firms have played a part, most of the archaeological sites known to exist in Angelina County have been identified by surveys associated with reservoir construction and in-house projects by National Forest personnel. The earliest archaeological research in the area was performed in the late 1930s and early 1940s by researchers from The University of Texas at Austin. At that time prehistoric cemeteries and mound sites were considered to be of primary importance. From the late 1940s until the mid 1970s, most of the archaeological research in East Texas was carried out in connection with reservoir construction. In 1948, for example, Robert L. Stephenson published the results of his work at the proposed McGee Bend Reservoir in Angelina, Jasper, Nacogdoches, Sabine, and San Augustine counties (Stephenson 1948a, 1948b). At the time this was the only systematic professional major archaeological investigation in the county.

In the 1970s, Ross Fields (1979) presented an overview of the cultural resources of the Davy Crockett, Sam Houston, Angelina, and Sabine National Forests of Texas. This document provides a brief discussion of all sites in each forest; 23 sites in Angelina County are mentioned. Another important document for this area is a cultural resource overview of the National Forests in Texas by John Ippolito (1983). Of particular relevance to this project is Ippolito's Figure 21 entitled "Drainage Systems & Probability Zones, Angelina National Forest, Texas."

Although no part of the project area is within the Angelina National Forest, Ippolito's figure covers areas within 10 miles of the City of Lufkin. He considers the Neches and Angelina rivers to be high probability areas with several streams in the county listed as medium probability areas. According to Ippolito (personal communication, July 15, 1999), there are several drainages in the county such as Hurricane Creek and Biloxi Creek that should be considered to be medium to high probability areas. Ephemeral streams such as those in the current project area are viewed by Ippolito as low probability areas.

It is beyond the scope of this report to discuss in detail the archaeological background of Angelina County, especially when numerous contract reports are available. The interested reader is referred to the statistical overview (Biesart et al. 1985), the planning document published by the Texas Historical Commission (Kenmotsu and Perttula 1993), and other reports cited above for more detailed information regarding the archaeology of Angelina County.

FIELD METHODS

This investigation was performed by utilizing the pedestrian survey method. Shovel tests were excavated in high probability areas and randomly across the project area which is heavily wooded with little or no surface exposures except along portions of the creek bank. All excavated matrix was screened using 1/4 inch hardware cloth and recorded on a shovel test log (Appendix I). In all, 14 shovel tests were excavated in the 25 acre project area (Figure 3). All shovel tests were excavated to clay and ranged in depth from 20 to 70 cm. Once clay was encountered the shovel tests were continued another 5 to 10 cm making the total depth of the tests between 30 and 75 cm. Because the total area of the project area is 25 acres, the number of shovel tests (n=14) exceeds the number per acre required by the *Archeological Survey Standards for Texas* as recommended by the Texas Historical Commission. Since clay was reached through shovel testing backhoe trenching was not necessary. Because of the dense vegetation no attempts were made to photograph portions of the project area. In addition to the shovel tests, shovel probes (not numbered) were excavated at two exposed cutbanks along the bank of the creek. The two exposed areas were approximately 15 and 30 m in length and contained a sandy loam to a depth of 60 cm. No cultural materials were observed; pebbles and petrified wood were numerous.

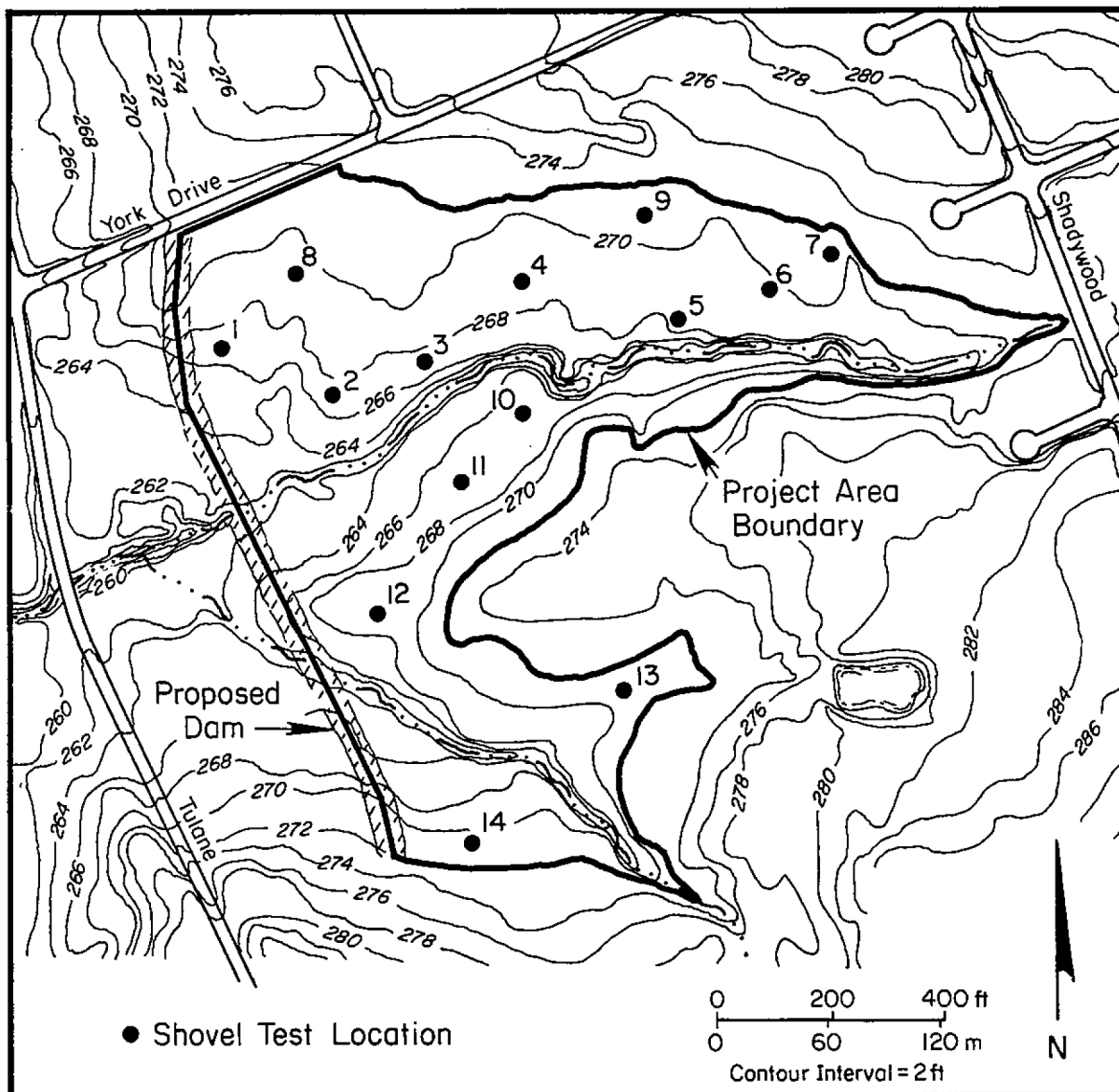


Figure 3. Project Area Map.

RESULTS AND CONCLUSIONS

The site records at TARL yielded no previously recorded archaeological sites in the project area. A review of the literature revealed that significant prehistoric and historic sites are present in Angelina County. One previously recorded prehistoric site (41AG21) is located on Cedar Creek near the confluence of this stream and Hurricane Creek. This site, recorded by Gus Arnold of the University of Texas at Austin in 1939 during his informal survey of East Texas, is the closest recorded site to the current project area. This prehistoric site is stated on the site form as about one acre in size on the top of a sandy ridge (250 foot contour) that slopes into "bottom land and creeks to the west and north." The age of this site is unknown; however, ceramics and projectile points suggest a Late Prehistoric or Caddoan component.

The project area was found to be in an area composed of two soil types. These are Fuller-Urban Land Complex, 1 to 4 percent slopes (FuB) and Koury-Urban Land Complex, occasionally flooded (Ks). FuB soils comprise the majority of the project area and are described in the *Soil Survey of Angelina County* and are described by Dolezel (1988:36-37) below.

The complex of gently sloping Fuller soil and Urban land is found on slightly concave to smooth uplands. It is about 50 percent Fuller soil, 35 percent Urban land, and 15 percent other soils. Typically, this Fuller soil has a fine sandy loam surface layer about 23 inches thick. It is dark grayish-brown in the upper part and grayish-brown with strong brown mottles in the lower part. The subsoil is clay loam to a depth of 42 inches. The subsoil has pockets of light gray silty material throughout. Crawfish burrows are common throughout the surface and subsoil layers. The underlying material is siltstone. Fuller soil is somewhat poorly drained and very slowly permeable. This soil also has a high seasonal water table. The urban land part of this complex is covered by streets, parking lots, and other structures that obscure or alter the soils so that identification is not feasible.

The Koury-Urban Land Complex consists of nearly level Koury soil and Urban land on flood plains (Dolezel 1988:45). It is about 45 percent Koury soil, 35 percent Urban land, and 15 percent other soils. The Koury soil and Urban land are so intricately mixed that separation is not practicable at the scale used in mapping. Slopes are generally less than 1 percent except in excavated or fill areas. Typically, Koury soil is loam to a depth of 14 inches. It is dark brown in the upper part and brown in the lower part. The next layer to a depth of 32 inches is brown silt loam that has light brownish gray mottles. To a depth of 48 inches, the soil is grayish-brown silt loam. Below that is a massive silt loam. This soil is moderately well drained and moderately slowly permeable.

Shovel tests in the project area revealed a variable depth of clay between 20 and 70 cm below the existing ground surface. All but one of the tests (ST 10) contained small natural pebbles and pieces of petrified wood. Shovel Test 10 contained pieces of wood and other debris that indicated recent disturbance in the area. This test was terminated at 40 cm

Although the project area was bisected by two tributaries of Hurricane Creek, it appears that these areas were not considered a suitable location for prehistoric occupation. These tributaries may not have been a dependable source of water in the past, and other areas along the main stream (Hurricane Creek) may have been selected instead. Also, much of the project area was on a side slope instead of on top of the landform. This may have been a factor in the absence of cultural materials.

RECOMMENDATIONS

Based on the absence of archaeological sites in the project area, it is recommended that construction be allowed to proceed as planned. It is always possible that archaeological sites are missed during any archaeological survey. Should evidence of a prehistoric or historic site in the project area right-of-way be discovered during construction, all work in this area should cease immediately until the Archeology Division, Texas Historical Commission can evaluate the situation.

REFERENCES CITED

Biesaat, Lynne A., Wayne R. Roberson, and Lisa Clinton Spotts

1985 *Prehistoric Archeological Sites in Texas: A Statistical Overview*. Office of the State Archeologist, Special Report 28. Texas Historical Commission.

Dolezel, Raymond

1988 *Soil Survey of Angelina County, Texas*. United States Department of Agriculture, Soil Conservation Service.

Fields, Ross

1979 Cultural Resources of the Davy Crockett, Sam Houston, Angelina, and Sabine National Forests of Texas. Report submitted to the United States Department of Agriculture, U.S. Forest Service by the Texas Archeological Research Laboratory, The University of Texas at Austin.

Ippolito, John

1983 *A Cultural Resource Overview of the National Forests in Texas*. Forest Service, U.S. Department of Agriculture, Lufkin, Texas.

Kenmotsu, Nancy Adele, and Timothy K. Perttula

1993 *Archeology in the Eastern Planning Region, Texas: A Planning Document*. Department of Antiquities Protection, Cultural Resource Management Report 3. Texas Historical Commission.

Stephenson, Robert L.

1948a Archaeological Survey of McGee Bend Reservoir - Jasper, Sabine, San Augustine, Angelina, and Nacogdoches Counties, Texas - A Preliminary Report. Manuscript on file at the Texas Archeological Research Laboratory, The University of Texas at Austin.

1948b Archaeological Survey of McGee Bend Reservoir: A Preliminary Report. *Bulletin of the Texas Archaeological and Paleontological Society* 19:57-73.

APPENDIX I: SHOVEL TEST LOG*

Shovel Test	Depth	Diameter	Munsell Reading	Results
01	70 cm	30 x 50 cm	10YR 7/4	sterile (clay at 65 cm)
02	60 cm	30 x 50 cm	10YR 7/4	sterile (clay at 50 cm)
03	60 cm	30 x 50 cm	10YR 7/4	sterile (clay at 55 cm)
04	70 cm	30 x 50 cm	10YR 7/4	sterile (clay at 60 cm)
05	40 cm	30 x 50 cm	10YR 7/4	sterile (clay at 30 cm)
06	40 cm	30 x 50 cm	10YR 7/4	sterile (clay at 30 cm)
07	30 cm	30 x 50 cm	10YR 7/4	sterile (clay at 20 cm)
08	70 cm	30 x 50 cm	10YR 7/4	sterile (clay at 60 cm)
09	50 cm	30 x 50 cm	10YR 7/4	sterile (clay at 40 cm)
10	40 cm	30 x 50 cm	10YR 7/4	sterile (disturbed)
11	40 cm	30 x 50 cm	10YR 7/4	sterile (clay at 30 cm)
12	70 cm	30 x 50 cm	10YR 7/4	sterile (clay at 65 cm)
13	75 cm	30 x 50 cm	10YR 7/4	sterile (clay at 70 cm)
14	60 cm	30 x 50 cm	10YR 7/4	sterile (clay at 55 cm)

* All shovel tests except number 10 were dug to hard yellow clay.